

## CLAIMS

1. A curable composition for a transparent material  
which comprises a vinyl polymer (I) the main chain of which  
5 is the product of living radical polymerization and which  
contains at least one crosslinkable silyl group, and an  
oxygen-curable substance (II).

2. The curable composition according to Claim 1  
10 wherein the transparent material is a material for  
building and construction, a material for civil engineering, a  
material for transport or a material for automobile.

3. The curable composition according to Claim 1 or 2  
15 wherein the transparent material is glass, a  
polycarbonate or a (meth)acrylic resin.

4. The curable composition according to any one of Claims  
20 1 to 3  
wherein the transparent material has a layer having  
photocatalytic activity-due antistaining properties as  
provided on the surface thereof.

5. The curable composition according to Claim 4  
25 wherein the surface layer having photocatalytic  
activity-due antistaining properties is a layer comprising a  
material having photocatalytic activity and, further, a  
hydrophilic material.

6. The curable composition according to any one of Claims  
30 1 to 5  
wherein the oxygen-curable substance (II) is tung oil  
and/or a liquid diene polymer.

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7. The curable composition according to any one of Claims  
1 to 6

which further comprises a plasticizer (III).

5 8. The curable composition according to Claim 7  
wherein the plasticizer (III) is a phthalic ester.

9. The curable composition according to Claim 7  
wherein the plasticizer (III) is a polyoxyalkylene  
10 polymer.

10. The curable composition any one of Claims 1 to 9  
wherein the vinyl polymer (I) has a molecular weight  
distribution of less than 1.8.

15 11. The curable composition according to any one of Claims  
1 to 10

wherein a vinyl monomer constituting the main chain of  
the vinyl polymer (I) is mainly selected from the group  
20 consisting of (meth)acrylic monomers, acrylonitrile monomers,  
aromatic vinyl monomers, fluorine-containing vinyl monomers  
and silicon-containing vinyl monomers.

12. The curable composition according to any one of Claims  
25 1 to 11

wherein the main chain of the vinyl polymer (I) is a  
(meth)acrylic polymer.

13. The curable composition according to any one of Claims  
30 1 to 12

wherein the main chain of the vinyl polymer (I) is an  
acrylic polymer.

14. The curable composition according to Claim 13  
35 wherein the main chain of the vinyl polymer (I) is an

acrylic ester polymer.

15. The curable composition according to any one of Claims 1 to 14

5 wherein the living radical polymerization for producing the main chain of the vinyl polymer (I) is the atom transfer radical polymerization.

16. The curable composition according to Claim 15

10 wherein a transition metal complex used as the catalyst in the atom transfer radical polymerization is one composed of a VII, VIII, IX, X, or XI group element in the periodic table as a central metal.

17. The curable composition according to Claim 16

15 wherein the metal complex used as the catalyst is a complex composed of copper, nickel, ruthenium or iron as a central metal.

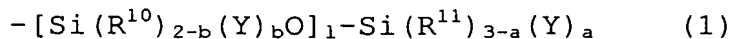
18. The curable composition according to Claim 17

20 wherein the metal complex used as the catalyst is a complex of copper.

19. The curable composition according to any one of Claims

25 1 to 18

wherein the crosslinkable silyl group of the vinyl polymer (I) is represented by the following general formula 1:



30 {wherein,  $\text{R}^{10}$  and  $\text{R}^{11}$  are the same or different and each is an alkyl group containing 1 to 20 carbon atoms, an aryl group containing 6 to 20 carbon atoms, an aralkyl group containing 7 to 20 carbon atoms or a triorganosiloxy group represented by  $(\text{R}')_3\text{SiO}-$  (in which  $\text{R}'$  represents a univalent hydrocarbon group containing 1 to 20 carbon atoms and the three  $\text{R}'$  groups may be  
35 the same or different) and, when there are two or more  $\text{R}^{10}$  or

$R^{11}$  groups, they may be the same or different; Y represents a hydroxyl group or a hydrolyzable group and, when there are two or more Y groups, they may be the same or different; a represents 1, 2 or 3, b represents 0, 1 or 2, and l represents an integer of 0 to 19, provided that the relation  $a + lb \geq 1$  should be satisfied.}

20. The curable composition according to any one of Claims 1 to 19  
10 wherein the crosslinkable silyl group of the vinyl polymer (I) is at the terminus of the main chain.

21. The curable composition according to any one of Claims 1 to 20  
15 which further comprises a polyoxyalkylene polymer (IV) containing at least one crosslinkable silyl group in an amount within the range of 0.1 to 1,000 parts by weight per 100 parts by weight of the vinyl polymer (I).

22. The curable composition according to any one of Claims 1 to 21  
20 which further comprises a polymer (V) containing a crosslinkable silyl group as obtained by a radical polymerization technique other than living radical  
25 polymerization in an amount within the range of 3 to 300 parts by weight per 100 parts by weight of the vinyl polymer (I).

23. The curable composition according to any one of Claims 1 to 22  
30 which further comprises 0.1 to 20 parts by weight of a tin curing catalyst (VI) per 100 parts by weight of the vinyl polymer (I).

24. An adhesive  
35 which is produced by using the curable composition

according to any one of Claims 1 to 23.

25. A sealing material

5 which is produced by using the curable composition  
according to any one of Claims 1 to 23.

26. A liquid gasket

10 which is produced by using the curable composition  
according to any one of Claims 1 to 23.

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